STATE OF ILLINOIS
ILLINOIS COMMERCE COMMISSION

ILLINOIS-AMERICAN WATER COMPANY	)	
	)	
	)	07-0507
Proposed General Increase in Water and Sewer Rates	)	
	)	
	)	

REBUTTAL TESTIMONY OF CHRISTOPHER C. THOMAS ON BEHALF OF THE CITIZENS UTILITY BOARD

CUB Exhibit 2.0

March 4, 2008

ICC DOCKET NO. 07-0507
REBUTTAL TESTIMONY OF CHRISTOPHER C. THOMAS

TABLE OF CONTENTS

I. INTRODUCTION AND PURPOSE

Q. PLEASE STATE YOUR NAME AND BUSINESS ADDRESS.

A. My name is Christopher C. Thomas. My business address is 208 S. LaSalle Street, Suite 1760, Chicago, IL 60604-1003.

Q. ARE YOU THE SAME CHRISTOPHER C. THOMAS THAT PRIVIDED DIRECT TESTIMONY IN THIS PROCEEDING?

A. Yes.

Q. ON WHOSE BEHALF ARE YOU TESTIFYING IN THIS CASE?

A. I am testifying on behalf of the Citizens Utility Board ("CUB").

Q. WHAT IS THE PURPOSE OF YOUR TESTIMONY?

A. The purpose of my testimony is to respond to criticism of my direct testimony raised by Illinois-American Water Company ("IAWC" or "the company") witness Ms. Pauline M. Ahern in IAWC Ex. 12.10. I will also comment on the direct testimony of Staff witness Ms. Sheena Kight-Garlish, and the direct testimony of Illinois Industrial Water Consumers' ("IIWC") witnesses Mr. Michael Gorman and Mr. Brian A. Janous.

II. SUMMARY OF TESTIMONY

Q. PLEASE SUMMARIZE YOUR FINDINGS.

A. The testimony filed to date by the other witnesses in this case does not undermine the conclusions presented in my direct testimony, which urged the Commission to reconsider its traditional cost of equity analysis. My direct testimony presented current academic

research regarding the Capital Asset Pricing Model ("CAPM") which indicates that the Commission must carefully reevaluate both the inputs it has traditionally accepted for the model and the role that the model itself should have in estimating the cost of equity for Illinois utilities. I recommended that the Commission use the discounted cash flow model ("DCF") to calculate the appropriate cost of equity for IAWC, and verify the results with a CAPM analysis performed using inputs consistent with the academic literature. Using this methodology, I recommended an 8.58% cost of equity for IAWC. As I will discuss below, this result is supported by the analyses performed by the IIWC witnesses in their direct testimony. Using capital structure and cost of debt information updated in IAWC's rebuttal testimony (IAWC Ex. 2.15), the appropriate cost of capital for IAWC is 7.09% as shown below:

IAWC	Amount	Capital Structure	Cost	Weight
Short-term Debt	$ 21,696,082	3.26%	5.28%	0.17%
Long-Term Debt	$ 352,979,224	52.97%	5.97%	3.16%
Equity	$ 291,751,184	43.78%	8.58%	3.76%
			WACC	7.09%

Debt costs and balances, and equity balance from IAWC Ex. 2.15

Q. WHAT SHOULD COMMISSION CONCLUDE FROM THE TESTIMONY FILED SO FAR?

A. The Commission must draw two general conclusions from the testimony filed so far. First, Staff, CUB, and IIWC agree that analysts' forecasted growth rates for water companies are overly optimistic because they are likely not sustainable over the long term. *See* Staff Ex. 1.0 at 553-556; IIWC Ex. 1.0 at 151-153; IIWC Ex. 3.0 at 265-266; CUB Ex. 1.0 at 650-653. Thus, I recommend that the Commission should not rely solely on analysts' growth forecasts to perform a DCF analysis. CUB Ex. 1.0 at 647-690. Mr.

Gorman and Mr. Janous (IIWC Exs. 1.0 and 3.0, respectively) perform two-stage DCF analyses, which recognize that, while short-term growth may not be sustainable, it will revert to a sustainable level over the long term. IIWC Ex. 1.0 at 190-211; IIWC Ex. 3.0 at 337-371. Using the annual DCF model, which I recommend, Mr. Gorman's two-stage analysis produces an 8.5% cost of equity for Ms. Ahern's water sample, and Mr. Janous' two-stage analysis produces an 8.4% cost of equity for his water sample. IIWC Ex. 1.0 at 206-08 and IIWC Ex. 3.0 at 367-70. Both of these results support my recommended cost of common equity of 8.58%, which is based on my DCF analysis and corroborated by my CAPM analysis.

Second, financial scholarship has rendered the Commission's traditional use of the expected market risk premium ("EMRP") controversial. Both Staff witness Sheena Kight-Garlisch, and IAWC witness Pauline M. Ahern rely on analysts' forecasted growth rates to perform a DCF analysis on the companies that make up the S&P 500. Staff Ex. 4.0 at 398-409 and IAWC Ex. 12.0 at 703-714. Using this method, Staff recommends an 8.99% EMRP and IAWC recommends an 8.13% EMRP. Staff Ex. 4.9 and IAWC Ex. 12.0 at 719. These estimates are 249 and 163 basis points above measures of the historic EMRP, which is 6.5%, as discussed by Mr. Janous. IIWC Ex. 3.0 at 461-466. As I discussed in my direct testimony, scholarship shows that the historic EMRP is already biased upward. CUB Ex. 1.0 at 380-429. To correct this problem, the Commission should examine the academic research and surveys of actual investors in the market place, which I presented in my direct testimony. CUB Ex. 1.0 at 380-459. A review of this information reveals that the appropriate EMRP is no greater than 5.00%. CUB Ex.

1.0 at 457-459. The following chart demonstrates the impact that the EMRP has on the CAPM analyses performed by the witnesses in this case.

Unadjusted and Adjusted CAPM Results

	Unadjusted			
	IIWC Ex. 3.9 Janous*	IAWC Ex. 12.09**	Staff Ex. 4.9***	CUB Ex. 1.0
Risk-free	4.80%	5.33%	4.56%	4.50%
Risk Premium	6.50%	8.13%	8.99%	5.00%
Beta	0.85	0.72	0.84	0.81
CAPM RESULTS	**10.33%**	**11.18%**	**12.11%**	**8.55%**

	Adjusted with 5.0% EMRP			
	IIWC Ex. 3.9 Janous*	IAWC Ex. 12.09**	Staff Ex. 4.9***	CUB Ex. 1.0
Risk-free	4.80%	5.33%	4.56%	4.50%
Risk Premium	5.00%	5.00%	5.00%	5.00%
Beta	0.85	0.72	0.84	0.81
CAPM RESULTS	**9.05%**	**8.93%**	**8.76%**	**8.55%**

* Mr. Janous' historical risk premium calculation
** IIWC's Water Sample
*** Staff's Water Sample

As the above chart shows, replacing Ms. Kight-Garlisch and Ms. Ahern's DCF-derived EMRPs and Mr. Janous' historical EMRP with the 5.0% EMRP that I recommended in my direct testimony produces CAPM results that are in line with the DCF analysis I performed. My DCF analysis produced a recommendation of 8.58%. These CAPM results are also similar to the annual two-stage growth DCFs performed by Mr. Gorman (8.5%) and Mr. Janous (8.4%). IIWC Ex. 1.0 at 206-08 and IIWC Ex. 3.0 at 367-70.

III. RESPONSE TO IAWC WITNESS AHERN

Q. PLEASE SUMMARIZE MS. AHERN'S RESPONSE TO YOUR DIRECT TESTIMONY.

A. Ms. Ahern criticizes the following aspects of my testimony:

1) My conclusion that the Commission should use the CAPM as a corroborative estimation technique instead of a primary method for determining the cost of equity capital,

2) My recommendation that the Commission minimize forecast error in the CAPM by reexamining the inputs it has traditionally accepted,

3) My rejection of a size adjustment to the cost of equity capital,

4) My application of the DCF method, and

5) My overall cost of equity recommendation.

I respond to each criticism below.

III.A. THE CAPM IS A CORROBORATIVE, NOT PRIMARY, COST OF CAPITAL ESTIMATION TECHNIQUE

Q. HOW DID MS. AHERN RESPOND TO YOUR SUGGESTION THAT THE COMMISSION RELY ON THE CAPM AS A CORROBORATIVE, NOT PRIMARY, COST OF CAPITAL ESTIMATION TECHNIQUE?

A. Ms. Ahern's criticism begins by implying that I relied on "a single article, in footnote 1 on page 5 of [my] Direct Testimony[1] which discusses forecast error in the CAPM." IAWC Ex. 12.10 at 43-44. She then argues that, because investors are or should be aware that multiple models exist for estimating the cost of equity, the efficient market hypotheses requires us to assume that investors consider these "multiple models." *Id*. at 168-173. Finally, she identifies that forecast error is also present in the DCF model. *Id*. at 175-216.

[1] Gregory L Nagel, David R. Peterson, and Robert S. Prati, The Effect of Risk Factors on Cost of Equity Estimation, Quarterly Journal of Business and Economics, Vol. 46 No. 1, 61.

Q. DID YOU RELY ON "A SINGLE ARTICLE" TO DISCUSS FORECAST ERROR IN THE CAPM.

A. Yes, to my knowledge, I relied on the most current article available to discuss the forecast error found within the CAPM. As I discussed in my direct testimony, this article; written by Gregory L Nagel, David R. Peterson, and Robert S. Prati; found that an overly simplified, unrealistic version of the CAPM outperforms the traditional version. This result casts serious doubt on the usefulness of the CAPM model. CUB Ex. 1.0 at 99-213.

New information is constantly being introduced in the financial literature as researchers dig deeper into the tenets of financial theory. Thus, as an analyst, I believe it is important to review the current literature to reevaluate traditional assumptions and refine my analysis to ensure that it is as accurate as possible. In this case, I recommend that the Commission do the same.

Q. IS THERE OTHER ACADEMIC EVIDENCE HIGHLIGHTING THE PROBLEMS WITH THE CAPM?

A. Yes, as I discussed in my direct testimony, at lines 182-192, problems with the CAPM have been evident for a number of years. The conclusions reached in the Nagel article, which are discussed in my direct, and are unrefuted by Ms. Ahern, reflects the current state of this research.

Q. DO YOU AGREE THAT THE EFFICIENT MARKET HYPOTHESIS REQUIRES THE ASSUMPTION THAT "INVESTORS CONSIDER [THE TRADITIONAL MODELS] MULTIPLE MODELS?" IAWC Ex. 12.10 at 168-173.

A. No. Ms. Ahern is correct that the efficient market hypothesis suggests that investors are aware of all publicly available information, including the various models discussed in the financial literature. IAWC Ex. 12.10 at 51-56. However, the Efficient Market Hypothesis also implies that investors are aware of the most current research available. Thus, investors are aware of the Nagel paper, and its discussion of forecast error within the CAPM. While Ms. Ahern cites two primary documents to support her conclusion that investors consider the traditional models as "multiple models," neither of these sources refutes the conclusions of the Nagel paper. IAWC Ex. 12.10 at 62-171, citing works by Roger A. Morin and Charles F. Phillips, Jr. In fact, they were both published prior to Nagel, et. al's, findings. Thus, Ms. Ahern seems to suggest that investors will favor older information over the most current research, for some unexplained reason.

Q. DO YOU AGREE THAT FORECAST ERROR IS ALSO PRESENT IN THE DCF MODEL?

A. Yes. However, as identified in my direct testimony, the Commission should look at the collected evidence from academic research to ensure that the parameters of the DCF are set appropriately. My testimony recommends a DCF analysis that does just this. Because problems do exist with the application of the DCF model, I recommend that the CAPM be used to check the reasonableness of DCF results. CUB Ex. 1.0 at 194-206. I will discuss this further below.

III.B. THE COMMISSION SHOULD MINIMIZE FORECAST ERROR BY REEXAMINING THE INPUTS IT HAS TRADITIONALLY ACCEPTED FOR THE CAPM.

Q. WHAT DID YOUR DIRECT TESTIMONY RECOMMEND WITH RESPECT TO THE TRADITIONAL CAPM INPUTS AND HOW DID MS. AHERN RESPOND?

A. My direct testimony recommended that the Commission reevaluate the use of adjusted beta parameters, as well as the method the Commission has traditionally accepted for calculating the expected market risk premium ("EMRP"). I testified that the methods the Commission has traditionally relied on for both of these parameters are inconsistent with the academic evidence and that these methods introduce a large degree of forecast error into CAPM results. Ms. Ahern disagrees with the need to reevaluate both parameters, and suggests the Commission continue doing what it has always done.

Q. HOW DID MS. AHERN RESPOND TO YOUR TESTIMONY THAT ADJUSTED BETA PARAMETERS ARE NOT APPROPRIATE FOR PUBLIC UTILITIES?

A. Ms. Ahern argues that I cite "a single study" to support my conclusion that utility betas do not revert to 1.00 over time. She argues that there is "myriad evidence that in general betas revert to 1.00." IAWC Ex. 12.10 at 250-251. She also produces a schedule, IAWC Ex. 12.16, that shows that utility betas are "trending" upward, which she claims is evidence that they revert to 1.00.

Q. IS THERE, IN FACT, "MYRIAD EVIDENCE" THAT BETAS GENERALLY REVERT TO 1.00?

A. Yes, but only in relation to non-utility companies. This evidence also indicates that public utility betas do not revert to 1.00. As discussed in my direct testimony, CUB Ex. 1.0 at 283-290, a well know study by Gambola and Kahl in 1990 concluded:

> The results of this study indicate that an underlying mean of 1.0 is too high for most utilities and an adjustment rate of .35 is too low.[2]

Gambola and Kahl go on to discuss the possibility that utility betas actually revert to a utility industry average beta.

The only literature that Ms. Ahern cites in response to the Gambola and Kahl article is a quote from Dr. Morin which discusses rising electric stock betas as evidence that utility betas have escalated upward. IAWC Ex. 12.10 at 287-291. There are two problems with arguing that rising electric utility betas refute Gambola and Kahl's conclusion. First, even Dr. Morin acknowledges that most of the rise in electric stock betas is due to restructuring, deregulation, and rising competition. While this may indicate that the parent companies, such as Ameren and Exelon here in Illinois, are fundamentally changing their business, it does not indicate that the delivery services regulated by the Commission are more risky relative to the market. In fact, these businesses cannot be affected by their parent's rising betas because the Commission is prohibited from considering the impact that unregulated activities have on the regulated companies cost of capital.[3] Second, an upward trend in betas does not indicate that they revert to 1.00.

[2] Michael J. Gambola and Douglas R. Kahl, Time Series Processes of Utility Betas: Implications for Forecasting Systematic Risk, Financial Management 92 (autumn, 1990).

[3] PUA Section 9-230 provides that "In determining a reasonable rate of return upon investment for any public utility in any proceeding to establish rates or charges, the Commission shall not include any (i) incremental risk, (ii) increased cost of capital, or (iii) after May 31, 2003, revenue or expense attributed to telephone directory operations, which is the direct or indirect result of the public utility's affiliation with unregulated or non-utility companies." (220 ILCS 5/9-230).

Instead, it is possible that the upswing in betas is part of the longer term reversion process, as I will discuss below.

Q. DOES THE FACT THAT UTILITY COMPANY BETAS HAVE TRENDED UPWARD INDICATE THAT THEY REVERT TO 1.00?

A. No. Rising beta estimates do not indicate, by themselves, that betas revert to 1.0. Reversion is a multi-year process and so an upswing in betas, by itself, is meaningless. Simply put, betas fluctuate as market prices change. In the case of the electric industry, it is likely that structural changes in the industry, and the changing fundamentals of the business, have changed the entire risk profile to a degree that the average electric utility beta is higher than it was 10 years ago. Once again, this does not demonstrate that beta is reverting to 1.0, only that the industry average beta may have risen.

Q. DID MS. AHERN RESPOND SUBSTANTIVELY TO YOUR TESTIMONY THAT THE COMMISSION SHOULD CONSIDER AVAILABLE RESEARCH ON THE EMRP AND CALCULATE AN INDEPENDENT EMRP FOR EACH INDIVIDUAL CASE?

A. No. Ms. Ahern does not respond substantively to my argument. Instead, she argues that because she and Staff witness Ms. Kight-Garlish have calculated the EMRP using a DCF analysis for the S&P 500, my testimony is irrelevant.

Admittedly, my testimony that the Commission has traditionally "relied on EMRP estimates calculated by individual analysts in individual cases from historical stock market data" is slightly inaccurate. CUB Ex. 1.0 at 362-362. The Commission has relied on both historical information and DCF analysis of the S&P 500 in calculating past

CAPM results. However, this does not change my conclusion. Both Ms. Kight-Garlisch and Ms. Ahern use forecasted growth in performing a DCF analysis on the S&P 500. As I have detailed in my testimony, this use of forecasted growth in the DCF model results in an upward bias.

Q. IS THIS UPWARD BIAS PRESENT IN THE DCF PERFORMED BY MS. KIGHT-GARLISCH AND MS. AHERN?

A. Yes. As I discussed in my summary section above, Staff recommends an 8.99% EMRP and IAWC recommends an 8.13% EMRP. Staff Ex. 4.9; IAWC Ex. 12.0 at 719. These estimates are 249 and 163 basis points above measures of the historic EMRP, which is 6.5%, as discussed by Mr. Janous. IIWC Ex. 3.0 at 461-466.

Q. IF THE COMMMISSION WERE TO USE HISTORIC INFORMATION TO PRODUCE GROWTH RATES FOR MS. KIGHT-GARLISCH AND MS. AHERN'S DCF ANALYSIS OF THE S&P 500, WOULD YOUR CONCERNS BE PLACATED?

A. No. Even with that modification, the EMRP would still be too high.

As I explained in my direct testimony, the financial literature indicates that a much lower EMRP is actually what investors expect. Enrique Arzac recaps a wide body of research by stating;

> We show that both the historic record, financial theory, and prospective estimates based on stock prices and growth expectations, all indicate that the future equity premium in developed capital markets is likely to be between 3 and 5%...[4]

[4] Enrique Arzac, Valuation for Mergers, Buyouts, and Restructuring, John Wiley and Sons, 35 (2005).

Tim Ogier, John Rugman, and Lucinda Spicer support this conclusion when they discuss the results of various surveys of investors' expectations of the EMRP in their 2005 publication:

> In the US, Merrill Lynch publishes 'bottom up' expected returns on the Standard and Poor's 500, derived by averaging expected return estimates for stocks in the Standard & Poor's 500….In recent years, the Merrill Lynch expected return estimates have indicated an EMRP in the region of 4% to 5%.[5]
>
> The Value Line projected market risk premia are somewhat more volatile than those from the Merrill Lynch DDM model. In recent years they have generally ranged from 2% to 6%.[6]
>
> …Greenwich Associates has published the results of an annual survey of pension plan officers regarding expected returns on the Standard and Poor's 500 for a five-year holding period. The Greenwich Associates survey has generally indicated an EMRP in a 2%-3% range.[7]

As I testified in my direct testimony, because the EMRP is not peculiar to Illinois or to utilities operating in Illinois, the Commission must not ignore available research on the EMRP and should not compute an independent EMRP for each individual case. CUB Ex. 1.0 at 364-368.

III.C. SIZE ADJUSTMENT TO THE COST OF EQUITY CAPITAL IS UNNECESSARY

Q. IS MS. AHERN CORRECT TO ARGUE THAT A SIZE ADJUSTMENT TO THE COST OF EQUITY CAPITAL IS NECESSARY BECAUSE THE ESTIMATED MARKET CAPITALIZATION OF IAWC IS SMALLER THAN THE MARKET CAPITALIZATION OF UTILITIES IN THE SAMPLE GROUP?

[5] T. Ogier et al., *The Real Cost of Capital A Business Field Guide to Better Financial Decisions* 74 (2004).
[6] *Id.*
[7] *Id. at 75.*

A. No. As I discussed in my direct testimony, the book value of IAWC is slightly less than the book value of the sample companies. Thus, no adjustment for size is necessary or appropriate. CUB Ex. 1.0 at 527-570. Ms. Ahern assumes that the Commission's task is to grant utilities a return based upon their market value capitalization. This is incorrect. The Commission grants returns based on the book value of assets. The Commission recently reaffirmed this in its recent decision in 07-0242:

> In the Commission's judgment, the book value capital structure reflects the amount of capital a utility actually utilizes to finance the acquisition of assets, including those assets used to provide utility service. In establishing the overall or weighted average cost of capital, the proportion of common equity, based on the book value capital structure, is multiplied by market-required return on common equity. The Commission has used this approach in establishing utility rates for at least twenty-five years. *E.g.*, Ameren Order, Docket Nos. 06-0070/06-0071/06-0072 (consol.) at 141 ("[t]he Commission observes that it has repeatedly rejected arguments in favor of using market-to-book ratios as the basis for establishing cost of common equity"). Market value is not utilized in this calculation because it typically includes appreciated value (as reflected in its stock price) above the Utilities' actual capital investments. Commission Final Order in Docket 07-0242 at 95-96.

Q. MS. AHERN ALSO SHOWS, IN IAWC SCHEDULE 12.17, THAT MARKET-TO-BOOK RATIOS HAVE CONSISTENTLY BEEN ABOVE 1.0 FOR S&P 500 COMPANIES FROM 1947 TO 2006. IS THIS RELEVENT TO THE COMMISSION'S DETERMINATION IN THIS CASE?

A. No. In fact, it is quite irrelevant to the Commission's decision. There are two problems with her analysis. First, it is inapplicable in this proceeding. As I have discussed above, the Commission sets rates that allow the utility the opportunity to recover their cost of capital on the book value of their investments, irrespective of the market value of such assets. Second, it is technically inaccurate to claim that Schedule 12.17 demonstrates any meaningful relationships between market value, book values, and inflation. As I

identified in my direct testimony, historic stock market data contains inherent biases. CUB Ex. 1.0 at 405-429. This bias is present in two forms. The simple arithmetic average, which Ms. Ahern uses to support her claim, is upwardly biased because of negative auto-correlation present in historic stock market data. CUB Ex. 1.0 at 411-414. In addition, analysis of historic stock market, or index, data looks only at companies that have survived over the long run. This introduces bias by omitting companies that have gone bankrupt or have dropped out of the indices. This is commonly referred to as survivorship bias. CUB Ex. 1.0 at 415-419.

III.D. DCF MODEL APPLICATION

Q. DID MS. AHERN CRITICIZE ASPECTS OF YOUR DCF ANALYSIS?

A. Yes. Ms. Ahern argues that my use of the internal growth formula to calculate the sustainable growth rate that investors expect, a primary driver of DCF results, is inherently circular. IAWC Ex. 12.10 at 415. However, she does not refute my conclusion that when the dividend payout ratio is changing, forecasted earnings growth rates introduce an upward bias into DCF results. Thomas Ex. 1.0 at 717-762.

Q. IS THERE ANY DEGREE OF CIRCULARITY IN USING HISTORIC INTERNAL GROWTH RATES AS A MEASURE OF EXPECTED FUTURE SUSTAINABLE GROWTH?

A. No. Ms. Ahern's rebuttal includes a block quotation from Dr. Morin which argues that there is a potential element of circularity in estimating a sustainable growth rate (g) for a cost of equity analysis by using a forecasted return on equity (the b in the internal growth formula: b x r = g). IAWC Ex. 12.10 at 451-475. Dr. Morin's discussion focuses only on

the use of forecasted returns in the internal growth formula. I used historic returns in my internal growth analysis to avoid this very problem. Historic growth rates also have other advantages to forecasted growth rates, as I will explain below.

Ms. Ahern also quotes Dr. Morin to imply that because realized, or historic, returns are the result of the regulatory process, and are subject to tests of fairness and reasonableness, there is somehow circular logic involved in using them in an internal growth analysis. IAWC Ex. 12.10 at 429-436. This is not an accurate portrayal of the regulatory process in Illinois. The Commission does not grant utilities a specific return each year. Instead, the Commission looks at the evidence at a given point in time, then using all of the information available, sets rates to allow the utility the opportunity to recover a reasonable return on its investment. As a result, there is no practical ongoing review of the fairness and reasonableness of utilities rates. Staff does monitor utility returns, but it is extremely rare for the Commission to initiate, on its own motion, a rate case to reduce utility rates.

Q. DOES MS. AHERN INTRODUCE ANY LITERATURE THAT UNDERMINES THE USE OF HISTORIC RETURNS IN AN INTERNAL GROWTH ANALYSIS?

A. No. Ms. Ahern introduces block quotations, which raise two issues. First, she again quotes Dr. Morin, who refers to studies by Timme and Eiseman and Dr. Myron Gordon, to argue that analysts growth rates outperform the historic internal, or retention, growth estimates that I utilized. IAWC Ex. 12.10 at 479-486 and 509-537. Second, she again quotes Dr. Morin to argue that retention growth estimates are inferior to other methods

because they are weakly correlated to measures of market value such as market-to-book ratios. IAWC Ex. 12.10 at 488-502.

Q. HAVE ANALYSTS GROWTH RATE BEEN SHOWN TO OUTPERFORM MEASURES OF HISTORIC GROWTH?

A. No. A 2002 study by noted theorists Eugene Fama and Kenneth French, which I referenced in my direct testimony and provided to the company in discovery, argues that:

> If dividend growth is unpredictable, the historical average growth rate is the best forecast of future growth.[8]

They go on to argue that:

> It is also worth noting that the market survivorship argument of Brown, Goetzmann, and Ross (1995) suggests that past average growth rates are, if anything, upward biased estimates of future growth.[9]

The two articles referenced by Ms. Ahern, one by Timme and Eiseman and another by Dr. Myron Gordon. IAWC Ex. 12.10 at 479-486, 509-537. These studies were conducted more than a decade prior to the Fama and French study on which I based my conclusion. Once again, Ms. Ahern seems to believe that investors somehow favor older information over newer information.

Q. ARE RETENTION GROWTH ESTIMATES INFERIOR TO ANALYSTS FORECASTS WHEN USED IN A REGULATORY CONTEXT, BECAUSE THEY ARE WEAKLY CORRELATED TO MARKET VALUE MEASURES SUCH AS MARKET-TO-BOOK RATIOS?

A. No. As I have discussed above the Commission's task is only to allow IAWC the opportunity to earn a fair rate of return on the book value of its invested capital. The

[8] Eugene F. Fama and Kenneth R. French, The Equity Premium, 57 J. Finance 650 (April 2002).
[9] *Id*,at 651.

market value of that investment is not relevant to that decision. Thus, the lack of a relationship between market-to-book ratios and retention growth estimates is not relevant for the Commission's decision in this case.

III.E. CRITICISM OF OVERALL COST OF EQUITY RECOMMENDATION

Q. DOES MS. AHERN CRITICIZE YOUR OVERALL RECOMMENDATION?

A. Yes. She has two general criticisms. First, she argues that my recommendation does not allow the company a return comparable to other public utilities. Second, she argues that my recommendation is not consistent with holding period returns of the S&P 500.

Q. DOES THE INFORMATION PRESENTED BY MS. AHERN DEMONSTRATE THAT YOUR RECOMMENDATION WILL NOT ALLOW IAWC A RETURN COMPARABLE TO OTHER UTILITIES?

A. No. Ms. Ahern relies on an analysis of authorized gas and electric company returns during 2007, and another analysis of returns on the S&P 500 to argue that my recommendation is inadequate. IAWC Ex. 12.20, and Ex. 12.21. There are several problems with this argument. First, IAWC is a regulated water and sewer utility. The business risks and conditions facing water and sewer companies are fundamentally different than the risks facing electric and gas utilities and firms operating in competitive markets. Second, setting that general point aside, without a thorough analysis of each specific Order authorizing the identified returns shown in Ex. 12.20, there is no way to tell if the specific risks facing each individual company are comparable to the specific risks facing IAWC. Third, the Commission has repeatedly maintained that the cost of

capital is utility specific and based upon the specific risks facing the business. For example, in the most recent Peoples gas rate case, the Commission stated:

> At several places in their evidence and briefs, the Utilities compare the ROE's recommended here with the ROEs approved in previous cases by this and other commissions. E.g., NS-PGL Ex. PRM-2.0 at 3-6. They assert that previously approved ROEs serve as "guideposts" for our analysis in these cases and insist that they "are not arguing that their returns should be based on the authorized returns of other utilities." NS-PGL BOE at 25. The Commission doubts that the Utilities' return comparisons were offered without the expectation that our decision-making would be affected by them. The Utilities are presumably reluctant to directly press for comparison-based ratemaking because of our previous rejection of that approach. In Commonwealth Edison's most recent rate case, we said:
>
> > ComEd asserts its cost of equity should reflect the costs of equity recently approved for electric utilities in the United States. The cost of equity appropriate to ComEd, however, is specific to that utility. ComEd may not simply adopt the cost of equity set for other utilities scattered around the country, for which the factors and circumstances are not necessarily similar. Rather, pursuant to Section 9-201 of the Act, ComEd must prove that its proposed cost of equity is just and reasonable. Commonwealth Edison, Docket. No. 05-0597, Order, at 153 (June 6, 2006).
>
> Commission Final Oder in Docket No. 07-0242 at 89-90.

III.F. OTHER ISSUES

Q. DOES MS. AHERN PROVIDE EVIDENCE TO REFUTE YOUR CONCLUSION THAT THE QUARTERLY DCF IS UPWARDLY BIASED?

A. No. She cites several paragraphs from Dr. Morin, at lines 590-634 of her testimony, which contain two general inaccuracies. The first is Dr. Morin's discussion of the dividend reinvestment assumption. IAWC Ex. 12.10 at 601-616. Dr. Morin is correct

that all DCF models inherently contain a dividend reinvestment assumption. However, as I discussed in my direct testimony, the issue is how this assumption coordinates with the Commission's decision to set rates. Because the Commission sets rates annually, it must use the annual DCF model to estimate the true cost of capital. The numerical example contained within my direct testimony at lines 907-962 demonstrates that improperly matching the quarterly DCF with an annual rate setting process results in an overstated return on equity.

The second issue raised by the Morin quote is the argument that the Commission must use the quarterly DCF because investors receive dividends quarterly. Once again, this argument misses the point. Investors receive dividends quarterly and can reinvest them as soon as they have the cash in their hands. However, the Commission sets rates that allow the company to recover its cost of capital on an annual basis. Thus, no matter which model, quarterly or annual, the Commission selects to set rates, investors have the opportunity to earn a higher rate of return on their invested capital because they can reinvest quarterly. Using the quarterly DCF model to set rates simply overstates the cost of equity. CUB Ex. 1.0 at 875-962.

Q. DOES MS. AHERN PROVIDE ANY COMPELING EVIDENCE THAT SOULD DISSUADE THE COMMISSION FROM USING CURRENT MARKET BASED RISK FREE RATES OF RETUN IN THE CAPM?

A. No. Ms. Ahern maintains that forecasted risk-free rates of return are appropriate. However, as Mr. Janous has demonstrated in IIWC Ex. 3.2, projections based on current

interest rates are likely as accurate as economists' projections of future interest rates. IIWC Ex. 3.0 at 88-91.

Q. DOES THIS COMPLETE YOUR TESTIMONY?

A. Yes.